**CMPEN 454**

**Project 1**

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1. Summary

The convolutional neural net (CNN) project was a first step into understanding fundamentals of modern computer image processing design. Implementing a forward pass CNN was a deep learning experience that stretched our understanding of object recognition from an algorithmic standpoint. The project as a whole was split into several stages of development from structural conception to layer by layer development and finally merge and design verification.

With the assistance of a debugging interface, development was easily verified in each layer of design allowing us insight into expected results. Skills attributed to and learned from in the CNN project design included many Matlab programming techniques and algorithms. Most of our team had not extensively used Matlab in the past, and as a result, we gained great experience working with the powerful language in extensive use of general multi-dimensional arrays and specific image processing and filtering techniques.

The quantitative performance evaluation….

1. Outline – procedural approach, flowchart of structure

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1. Experimental Observations
2. Performance Evaluation
3. Explorative Step
4. Contributions